Disney PRESENTS

The ANIMATION s·t·u·d·i·o

GETTING STARTED

Disney PRESENTS

The ANIMATION studio

GETTING STARTED

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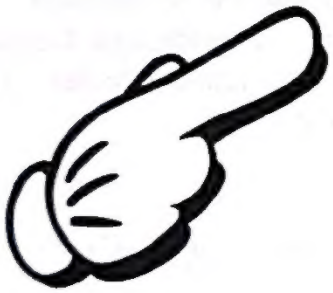
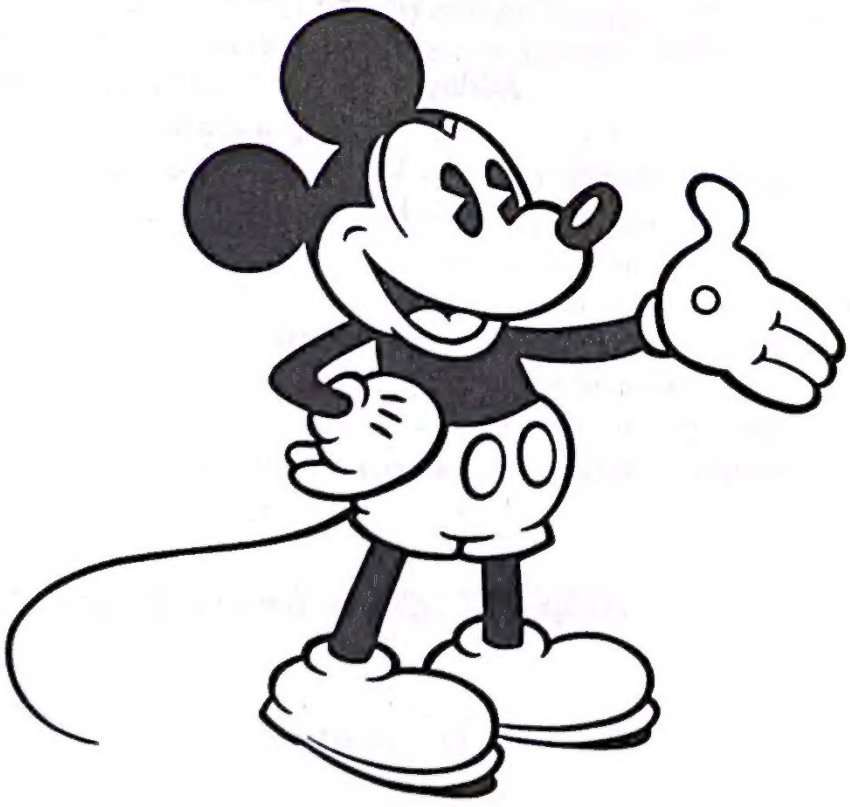


CHAPTER 1

The Animation Studio Overview



What The Animation Studio Is

The Animation Studio is an easy-to-use animation program for anyone interested in learning about animation and creating animations on a computer. The Animation Studio's powerful capabilities let you create and enhance animations with unlimited artistic possibilities. Now you can create and view your animations with the speed of a computer and make changes just as fast.

With The Animation Studio you can view and study Disney reference animations from such classics as *Lady and the Tramp, Alice in Wonderland,* and others. These demonstrations will help you to learn some of the magic that is characteristic of Disney-style animation.

The Animation Studio provides a variety of powerful functions to help you create animations:

- *Free-form drawing tools*
- *Quick creation of geometric shapes such as circles, ellipses, and rectangles*
- *Pencil Test with "onion skin" effect*
- *Instant animation testing*
- *Exposure Sheet for timing and sound effects*

- *File exchange with other animation and paint programs*

These are just some of the great features. You'll learn about many others as you use The Animation Studio.

The Animation Studio Programs

The Animation Studio is made up of the following programs:

- **Pencil Test** — where you create rough black and white animations to work out form and timing
- **Exposure Sheet** — where you set up the sequences of cels that make up your animation and add timing and sound effects (the Exposure Sheet is a part of the Pencil Test program)
- **Ink & Paint** — where you clean up the outlines from the Pencil Test and add color
- **Camera** — where you add backgrounds to your final animations (the Camera is a part of the Ink & Paint program)
- **DAS** — a memory-resident supervisor program that lets you switch between Pencil Test and Ink & Paint

Documentation

Two manuals are provided with The Animation Studio.

Getting Started

This **Getting Started** manual tells you how to install and start the software, and then provides a series of lessons that guide first-time animators through the major steps necessary to create computer animations.

User's Guide

The **User's Guide** contains complete and detailed instructions on all of the features in The Animation Studio. In addition, it presents a short history of animation and the significant contributions that have come from Walt Disney. Finally, the User's Guide devotes a chapter to the techniques of animation that have made Walt Disney Studios the recognized leader in the field.

In both the Getting Started and User's Guide manuals, keys that you must press simultaneously are hyphenated (i.e., Shift-k, Alt-b). Keys that are not hyphenated are single keys; for instance, F1 is the F1 key, not the letter F and number 1.

How to Use the Manuals

The documentation serves the needs of a variety of audiences, from skilled computer users with computer animation experience, to skilled computer users who are new to animation, to first-time computer users with no animation experience. The Animation Studio offers something for each of these audiences.

Experienced computer users with some knowledge of animation should read Chapter 2: Installation to load the program. Then start the program and try it out. If you need help, check the index in the User's Guide.

Skilled computer users with no previous animation experience should also read Chapter 2: Installation to load the program. Then you should read the animation chapters in the User's Guide and try out some of the techniques. We also recommend that you experiment with the sample animations as a starting point.

First-time users with little or no animation experience should start by reading Chapter 1: The Disney History of Animation in the User's Guide. Then read Chapter 2: Installation which immediately follows this section. Finally, we recommend that you work through the lessons provided in this manual.

CHAPTER 2

Installation

Objectives

This chapter describes the contents of The Animation Studio and the computer setup you need to be able to use it. You'll learn how to:

- Install The Animation Studio software
- Start The Animation Studio program

Software

The Animation Studio package contains four 3.5" disks:

- The STUDIO disk contains The Animation Studio programs and a hard disk installation program.
- The MORGUE disk contains Reference animations from Disney Studios. These animations are provided for you to study and cannot be saved with modifications made to them.
- The DEMO-REEL disk contains a black and white and a full-color animation featuring Donald Duck.

- The EXTRAS disk contains fonts, basic sound effects, a library of Sample animations, the Flick program (which lets users run an animation without the actual Animation Studio program), and a picture file format conversion program.

The Animation Studio is also available on two 5.25" high-density disks. To order the 5.25" high-density disk versions, please fill out the disk offer coupon enclosed in The Animation Studio package. If you have additional questions regarding the 5.25" version, please contact our Customer Service Department.

Hardware Requirements

To run The Animation Studio, you must have:

- IBM PC, XT, AT, PS/1, PS/2 family, or 100% compatible; Tandy 1000, 2500, 3000 series.
- 640K of RAM (random access memory); additional expanded memory is recommended
- CGA, EGA, VGA, MCGA or Tandy graphics adapter
- PC-DOS/MS-DOS 3.0 or later
- 3.5" or 5.25" disk drive
- Color display or multiscan monitor
- Mouse (and Microsoft-compatible mouse driver software)

Installing on a Hard Disk

The Animation Studio comes with an Install program that makes installing easy. When you use the Install program, you're guided through the process by a series of screens.

In the following instructions, we refer to your computer's floppy disk drive as the A: drive and the hard disk drive as the C: drive. If your floppy or hard disk drive is something other than drive A: or C:, substitute A: or C: with the correct drive letter(s).

1. Insert the STUDIO disk in drive A: . At the A> prompt, type **INSTALL** and press Enter.

2. The Install program lets you install all or part of The Animation Studio program on your hard drive. The parts installed are: Program files, Animation files, Sound Effects files, Font files, and a batch file.

   You can select an on-screen option by moving the mouse pointer on it and clicking the left mouse button, or by using the keyboard arrows to highlight it and pressing Enter.

   Select YES to continue with the Install program.

3. The default hard drive and subdirectory The Animation Studio will be installed to is C:\DAS. To change the hard drive or subdirectory name, click on C:\DAS with the left mouse button. Press the Backspace key or the Delete key to delete letters. Enter a new hard drive letter and subdirectory name. To continue, select YES.

4. Next, you're asked if you want to install the Program files. Only the Program files are required to run The Animation Studio. For ease of access, you should install the other files onto your hard drive as well. Select YES to install the Program files or NO to continue to the next screen.

   Some of the Program files are on the third disk called EXTRAS; you'll be prompted to insert this disk.

5. You're asked if you want to install the Animation files. There are two different collections of files: Morgue and Library. Morgue is a collection of Reference animations from classic Disney movies. These files are for study and cannot be saved with modifications made to them. Library is a collection of Example animations that you can modify and save. There are also special animations on the DEMO-REEL disk. Select YES to install the Animation files or NO to continue to the next screen.

6. You're asked if you want to install Font files. Select YES to install the Font Files or NO to continue to the next screen.

7. In the final file installation screen, you're asked if you want to install the Sound Effect files. **These files only work if you have The Sound Source from Disney Software, a Sound Blaster card, or Tandy Digital Sound.** The sound effects are those commonly used in cartoons. You can incorporate these sounds into any animation you create. Select YES to install the Sound Effect files or NO to continue to the next screen.

8. After all the files are installed, you're asked if you want a batch file created. The batch file allows you to type in DAS at the main directory to start the program; you won't need to go to the DAS subdirectory each time you want to start The Animation Studio.

The files that you chose to install are now on your hard disk. These are the subdirectories that the installation program creates in the DAS subdirectory:

- Morgue
- Library
- Demo
- Fonts
- Soundfx

Copying onto Floppy Disks

If you plan to use the program on a floppy drive, make copies of the disks to work from. This way, if anything happens to the copies you're using, you can easily make new copies from the original disks to use. Before you copy the original disks, write-protect them so you can't accidentally copy over them. (To write-protect a 3.5" disk, slide the tab so you can see through the window.) You should also create one or more blank, formatted disks if you plan to save your work onto floppy disks.

In the following instructions, we refer to your computer's floppy disk drive as the A: drive. If your floppy disk drive is something other than drive A:, substitute A: with the correct drive letter.

One Drive Systems

1. Have four 3.5" disks ready.

2. With a DOS disk in drive A:, at the A> prompt type **DISKCOPY A: A:** and press Enter.

3. You're asked to insert a source disk; insert the STUDIO disk in drive A: . Press Enter to start copying. You'll need to swap disks during the copying process — you're prompted when to insert your source disk (the original disk) and when to insert your target disk (the backup copy). Label the copy of the disk with the same name as the original.

4. When the disk copying is complete, you're asked if you want to make another copy. Repeat step 3 with the MORGUE, EXTRAS and DEMO-REEL disks.

Two Drive Systems

NOTE: These instructions only work if both drives are the same size; if they aren't, you'll have to use the instructions for one drive systems.

1. Have four 3.5" disks ready.

2. With a DOS disk in drive A:, at the A> prompt type **DISKCOPY A: B:** and press Enter.

3. You're asked to insert your source disk in drive A: and the target disk in drive B: . Insert the STUDIO disk in drive A: and the target disk in drive B: . Press Enter to start copying.

4. When the disk copying is complete, you're asked if you want to make another copy. Repeat step 3 with the MORGUE, EXTRAS and DEMO-REEL disks.

Starting The Animation Studio

Your mouse should be plugged in and the mouse driver should be installed before you load The Animation Studio. See your mouse/mouse driver user manuals if you need further details.

The Animation Studio is made up of two main programs: Pencil Test and Ink & Paint. You can load each program separately from DOS or you can load the memory-resident supervisor program called DAS that lets you easily switch between the two programs without having to exit to DOS.

1. Hard disk users: Make sure you're in the **DAS** subdirectory. (If you're not sure what subdirectory you're in, type **CD \DAS** and press Enter. You should now be in the correct subdirectory.)

   Floppy disk users: Insert your copy of the STUDIO disk in a floppy disk drive. Go to the disk drive that the STUDIO disk is in.

2. To start The Animation Studio, type **DAS** and press Enter.

   (To start Pencil Test only: CGA, Tandy or MCGA graphics users should type **PTTM** and press Enter; EGA or VGA graphics users should type **PT** and press Enter. To start only Ink & Paint in any graphic modes, type **IP** and press Enter.)

Copy Protection Requester

When you start The Animation Studio, the program shows a requester (a window that requires you to enter information). You're asked to turn to a certain page in the User's Guide; on the **lower right corner** of that page is Mickey in a specific pose in either black or purple. Match the Mickey on the screen to that in the User's Guide (be sure to select the correct color, too). Use the left and right arrows on your keyboard to toggle through the different Mickeys; when you have the correct one, press Enter. You must select the correct Mickey to start The Animation Studio.

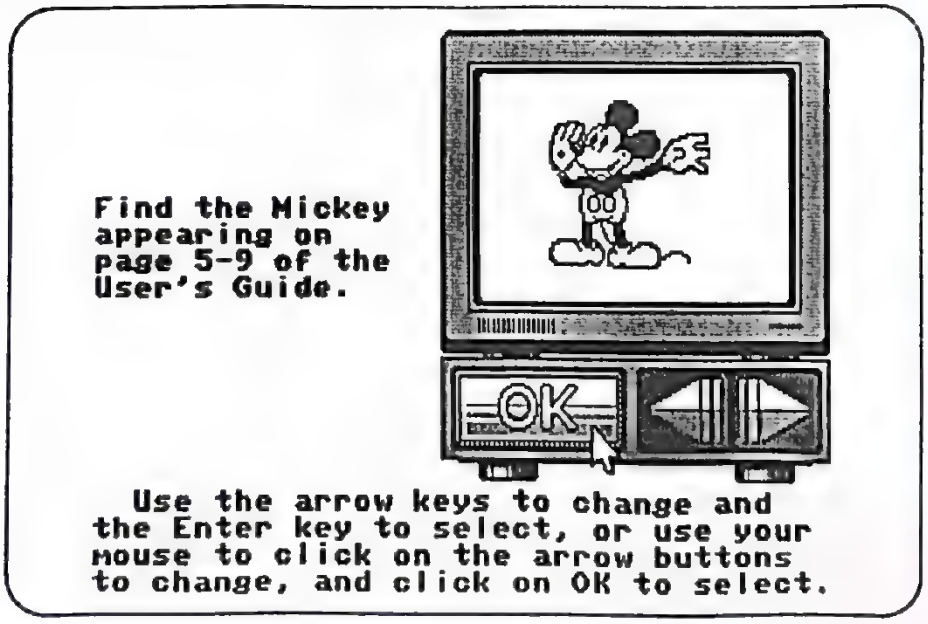


Figure 2-1. Security Requester

After you choose the correct Mickey, you see the Pencil Test screen, with the cel area (the area you'll be drawing on) on the left and the Toolbox on the right as shown in Figure 2-2.

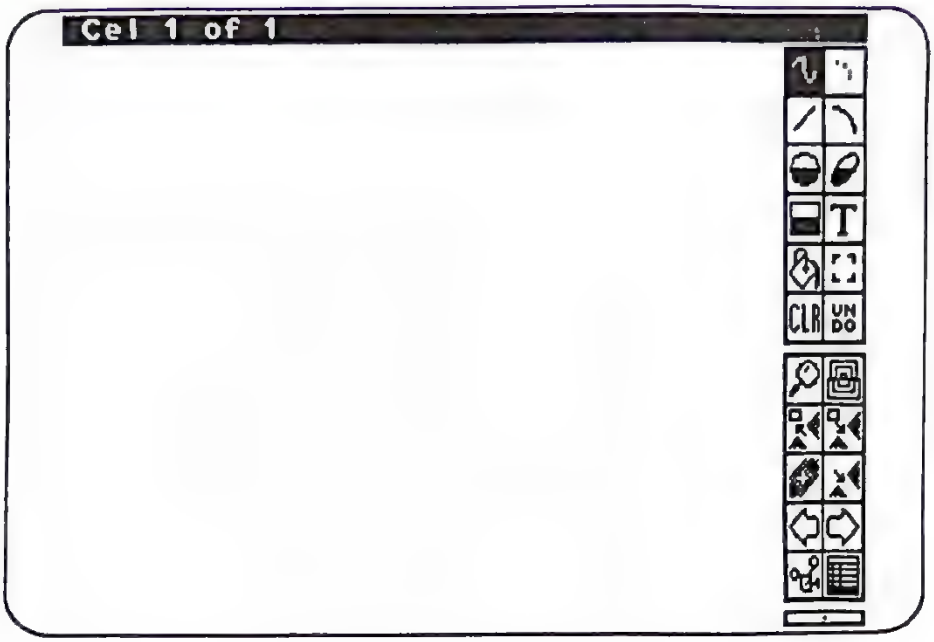


Figure 2-2. Pencil Test Screen

If this is the first time you've ever used The Animation Studio, work through the tutorial lessons in this manual. You'll learn how to use many of The Animation Studio tools and techniques.

Forcing a Graphics Mode

You have the option of loading the program in a specific graphics mode by typing a command line argument after the program name. For example, to force Pencil Test to load in VGA, you can type **PT VGA** and press Enter (VGA would be the command line argument).

You are not required to enter a command line argument. If you don't enter a command line argument, The Animation Studio will determine the graphics capability of your system and load the program accordingly.

The following is a complete list of ways to load The Animation Studio with a command line argument. Make sure there is a single space between the program name and command line argument.

The Animation Studio supervisor program called DAS allows you to switch between Pencil Test and Ink & Paint without exiting to DOS.

DAS CGA	Load The Animation Studio supervisor program in CGA mode
DAS MCGA	Load The Animation Studio supervisor program in MCGA mode
DAS TANDY	Load The Animation Studio supervisor program in Tandy mode
DAS EGA	Load The Animation Studio supervisor program in EGA mode
DAS VGA	Load The Animation Studio supervisor program in VGA mode
DAS ?	Display the command line options that can be used with DAS

There are two commands to start the Pencil Test program: PT and PTTM. PT starts the Pencil Test program for EGA and VGA users. PTTM starts the Pencil Test program for CGA, MCGA, and Tandy 16-Color Graphics users.

PTTM CGA	Load Pencil Test in CGA mode
PTTM MCGA	Load Pencil Test in MCGA mode
PTTM TANDY	Load Pencil Test in Tandy mode (Note: Tandy users with VGA graphics should load Pencil Test by typing PT and pressing Enter.)
PT EGA	Load Pencil Test in EGA mode
PT VGA	Load Pencil Test in VGA mode
PT ?	Display the command line options that can be used with PT
PTTM ?	Display the command line options that can be used with PTTM

The IP command loads Ink & Paint.

IP CGA	Load Ink & Paint in CGA mode
IP MCGA	Load Ink & Paint in MCGA mode
IP TANDY	Load Ink & Paint in Tandy mode
IP EGA	Load Ink & Paint in EGA mode
IP VGA	Load Ink & Paint in VGA mode
IP ?	Display the command line options that can be used with IP

Running The Animation Studio on Low Memory Systems

If you're working on a low memory system, here are some notes you will find helpful:

- Do not type DAS to load The Animation Studio; this loads the memory-resident supervisor program. Type either PT (EGA, VGA users) or PTTM (CGA, Tandy, MCGA users) to load Pencil Test. Type IP to load Ink & Paint.

- Do you have Terminate and Stay Resident (TSR) programs in RAM? Examples of TSRs are Microsoft® Windows, calculators, clocks, and disk caches. TSRs are sometimes automatically loaded by your computer through the AUTOEXEC.BAT or CONFIG.SYS file when you boot your machine. If you're using TSRs, you may have to start up your computer by loading DOS from an original DOS system disk, or you can remove the TSRs from your AUTOEXEC.BAT or CONFIG.SYS file. Please refer to your computer's user manual for complete details on TSRs, AUTOEXEC.BAT and CONFIG.SYS files.

- Use the F1 key to keep track of the system memory available.

- If a message tells you that you're low on memory, follow the tips shown on screen to save your work. If you ignore the warnings, you may reach a point where, in order to be able to do anything else, you must delete one or more cels.

- Save animations often. If you do happen to run out of memory and there's no way your work can be saved, you will only lose the amount of work since your last save.

- Some functions or tools may not work properly on low memory systems depending on the amount of memory available. The Magnify tool, Save As command, Fill tool, and high-resolution animations may not run or work correctly.

Questions You May Have

If you have a question about The Animation Studio, here are some things you can do:

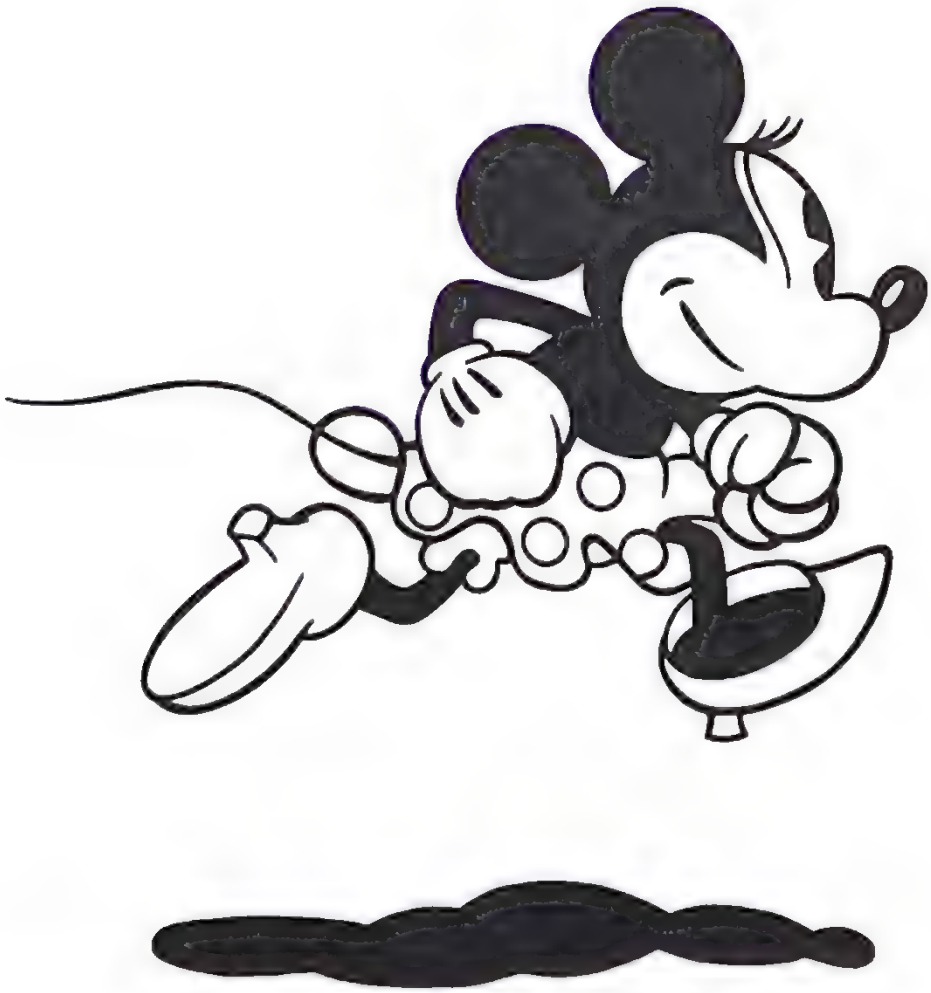
- Use the index in the User's Guide or Getting Started manual to find the topic you need help with.

- Refer to Appendix D: Troubleshooting Checklist in the User's Guide. This section addresses hardware and software problems you may encounter. There's also a Questions and Answers section that deals with certain common issues.

- Contact the Disney Software Customer Support department. You can call, write, fax, or use the Bulletin Board System (BBS). You'll find complete details on our Customer Support department in Appendix D: Troubleshooting Checklist in the User's Guide.

CHAPTER 3

Lesson 1: Getting Started



Objectives

This lesson introduces you to the basics of The Animation Studio. By the time you complete this lesson, you'll be creating simple animations. You'll learn how to:

- Use the menus, tools, and other items in The Animation Studio
- Create simple drawings
- Create a simple animation
- Exit The Animation Studio

Communicating with The Animation Studio

You'll use your mouse and keyboard to communicate with The Animation Studio. By moving the mouse, you control the movement of a pointer on the screen. The pointer looks like a crosshair + .

Look at the screen and locate the pointer. Move the mouse — notice how the pointer moves in the direction you move the mouse.

The Screen Elements

When you start The Animation Studio, you should be in the Pencil Test program on cel 1. Your screen should look like that in Figure 3-1.

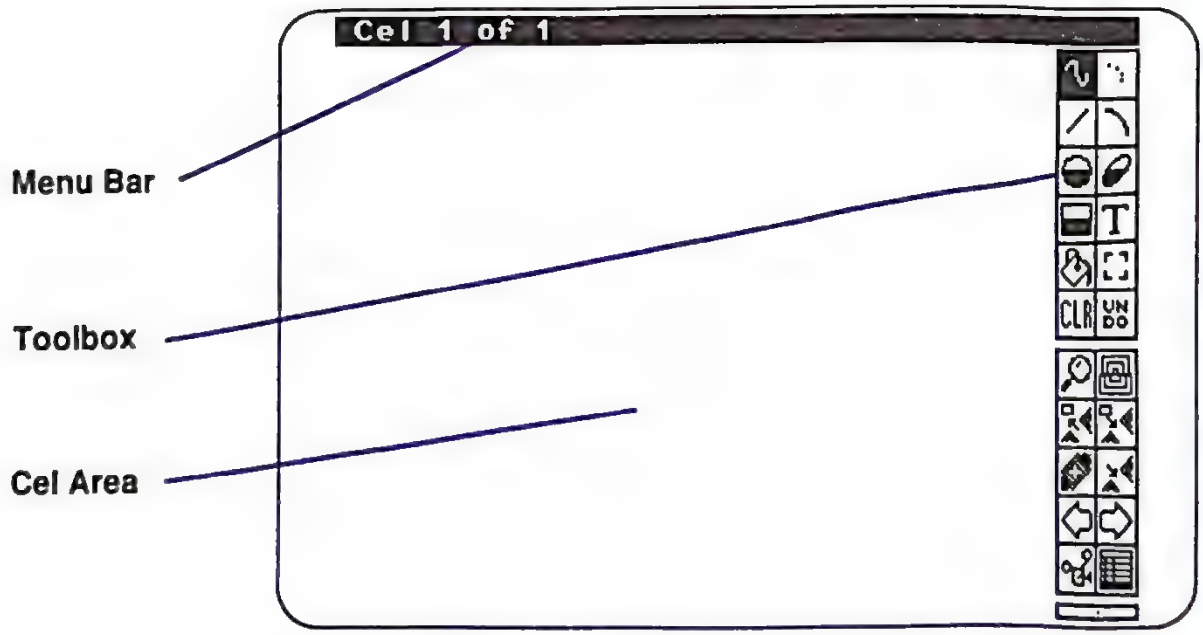


Figure 3-1. Pencil Test Screen Elements

The Menu Bar

In the figure below, the Pencil Test menu bar is displayed at the top of the screen. To display the menu bar on your screen, move the pointer to the top of the screen and hold down the right mouse button. While continuing to hold down the right mouse button, move the pointer over the Project menu title. You should see the same Project menu as shown in Figure 3-2.

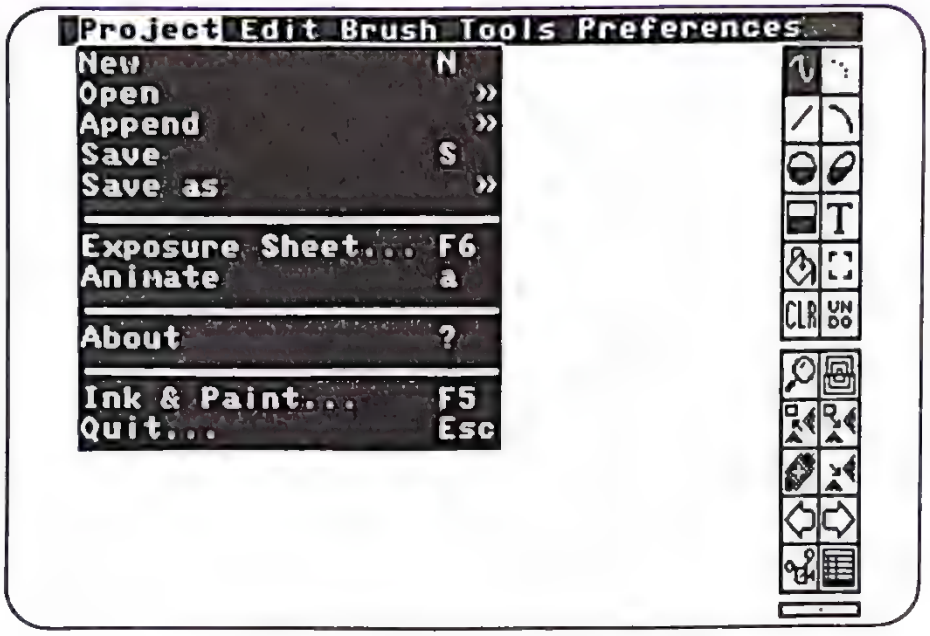


Figure 3-2. Pencil Test Project Menu

Continue to hold down the right mouse button and point to each of the menu titles along the menu bar. Notice the menu items under each menu title.

You'll learn more about how to select options from the menus later in this tutorial.

The Toolbox

The Toolbox contains tools that help you create the drawings for your animation. These tools are represented in the form of icons, which are symbols of the functions that the tools perform.

To use a tool, select it by moving the pointer over it and clicking the left mouse button. The tool that is currently selected is highlighted. Practice selecting several tools by clicking on them.

Creating Simple Drawings

The first step in animating is to create outlines of the objects or characters you want to animate. Later, you can clean up the outlines and fill them with color using the Ink & Paint section of The Animation Studio.

Creating Outlines

Click on the Freehand Line tool. To draw, hold down the left button of the mouse and move the mouse to create freehand lines on the screen. Practice moving the mouse in straight lines and then in circular patterns.

Now hold down the right mouse button. Draw over an area that has black lines. Notice that holding down the right button creates white lines, which acts as an eraser on the black lines. You can use this technique to clean up mistakes.

The Undo tool "undoes" your last action. Draw a line and then select Undo. Notice how that line disappears. You can also undo the Undo option. Click on Undo and notice how the line reappears.

Clearing the Screen

To clear the screen, move the pointer over the Toolbox and click on the CLR icon. Everything you've just drawn is cleared from the screen. Use the CLR tool whenever you want to clear the entire screen.

Creating Squares and Rectangles

The Animation Studio provides several tools to help you easily create geometric shapes.

Click on CLR to clear your screen. Select the Rectangle tool by clicking on the icon. Notice that the top half of the tool is an outline and the bottom half is solid. Clicking on the top half lets you create outline boxes while clicking on the bottom half lets you create filled boxes.

Let's create an outline box. Click on the top half of the tool and move the pointer onto the cel area. Press the left mouse button to "anchor" a corner of the rectangle. Continue to hold the left button down and drag the mouse away from the anchor point. Notice that the rectangle grows larger as you move the pointer away from the anchor point. Release the mouse button to "set" the rectangle.

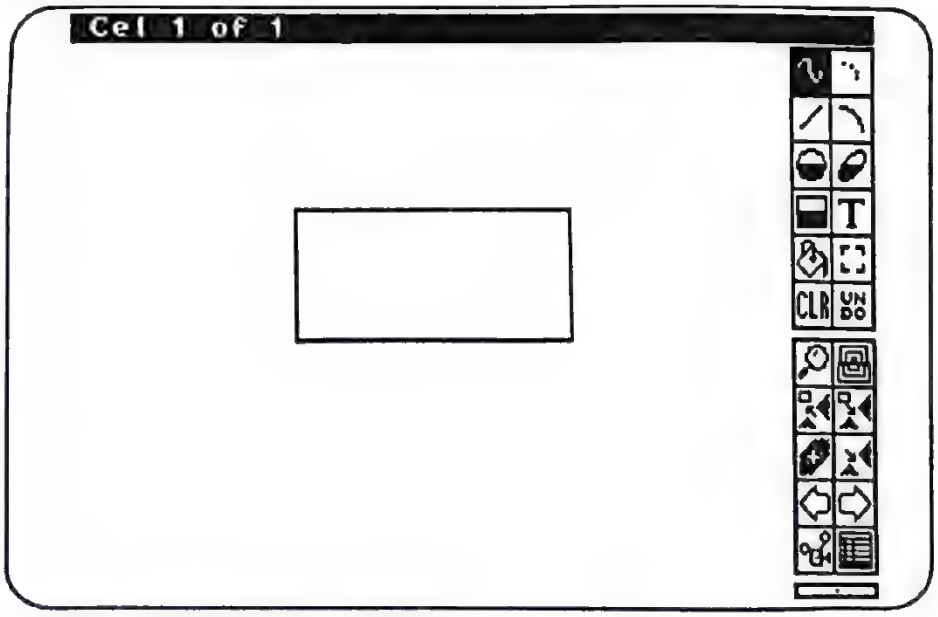


Figure 3-3. Rectangle Example

Now click on the bottom half of the Rectangle tool. Draw a filled rectangle by using the same technique that you used to make an unfilled rectangle.

Draw another filled rectangle. Then click on the top half of the Rectangle tool. Move the pointer to the inside of the filled rectangle, hold down the right mouse button, and draw another rectangle. Now you have an outline of a rectangle within a rectangle.

Try drawing rectangles with different combinations of outline and filled, and with the left and right mouse buttons. Draw them on top of each other or overlap them so you can see how the options you chose affects the rectangles.

Creating Circles

Click on the bottom half of the Circle tool. Move the pointer onto the cel and draw a filled circle by holding down the mouse button and dragging. Release the mouse button to set the circle.

The circle draws a little differently than a rectangle. When you select an anchor point for a rectangle, that anchor is at the corner of the rectangle. When you select an anchor point for a circle, that anchor point is in the center of the circle. No matter where you drag the pointer, the circle grows around that center.

Try drawing circles using the techniques you learned with the rectangles.

Note: If you're using a graphics resolution of 640x200 or 640x350, the circle will come out elliptical. To draw a circle, use the Ellipse tool. The Ellipse tool is described in detail in Chapter 3: Pencil Test of the User's Guide.

Creating a Simple Animation

In this part of the tutorial, you're going to create a simple Pencil Test animation.

Starting with an Idea

Every animation starts with an idea. The idea for this one is simple: a bouncing ball. As with any animation, the illusion of continuous motion is created by drawing a series of cels in which the object of the motion changes slightly in each successive cel. When the cels are played back at a typical rate of 12 to 24 frames per second, the viewer perceives motion.

Creating the First Cel

To create a bouncing ball, you'll draw a filled circle on the first cel, and then draw the ball in a new position on a series of successive cels.

Start by clicking on the CLR tool to clear the cel area. Then select the filled Circle tool (bottom half of the Circle tool) and draw a filled circle in the top middle of the cel, as shown in Figure 3-4.

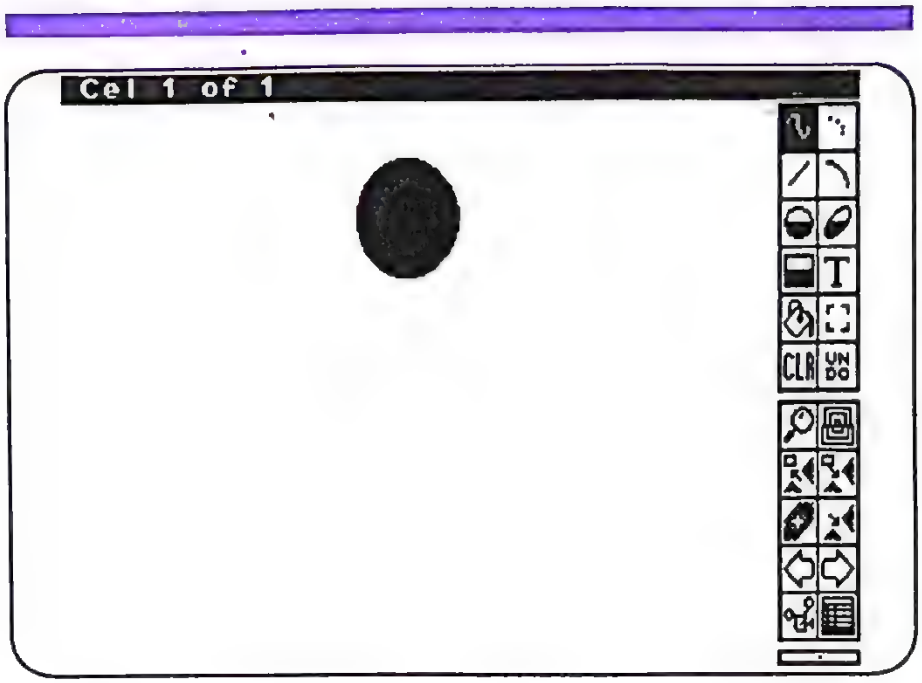
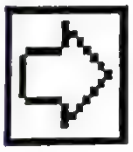


Figure 3-4. Cel 1 of 1 with Filled Circle

Advancing to Next Cel



Advance to the next cel by clicking on the Forward Arrow tool in the Toolbox. You should now be on cel 2. Look at the menu bar and you'll see Cel 2 of 2.

The filled circle on cel 1 "shows through" as a gray image on cel 2. (If you're in CGA mode, you will not see grey images; instead, you will see alternating images of magenta and light blue.) This is called the "onion skin" effect because it's similar to the effect of making drawings on onion skin paper, which is translucent. By seeing the position of the drawing on the previous cel, you can position the drawing on the current cel to create a path of action.

Now create a filled circle of the same size as the previous one, but position it below the first circle so that about half the circle overlaps. (If you don't like the placement of your circle, select Undo and try again.) This is the downward path of action for the bouncing ball. When you complete this, your screen should look like the one in Figure 3-5.

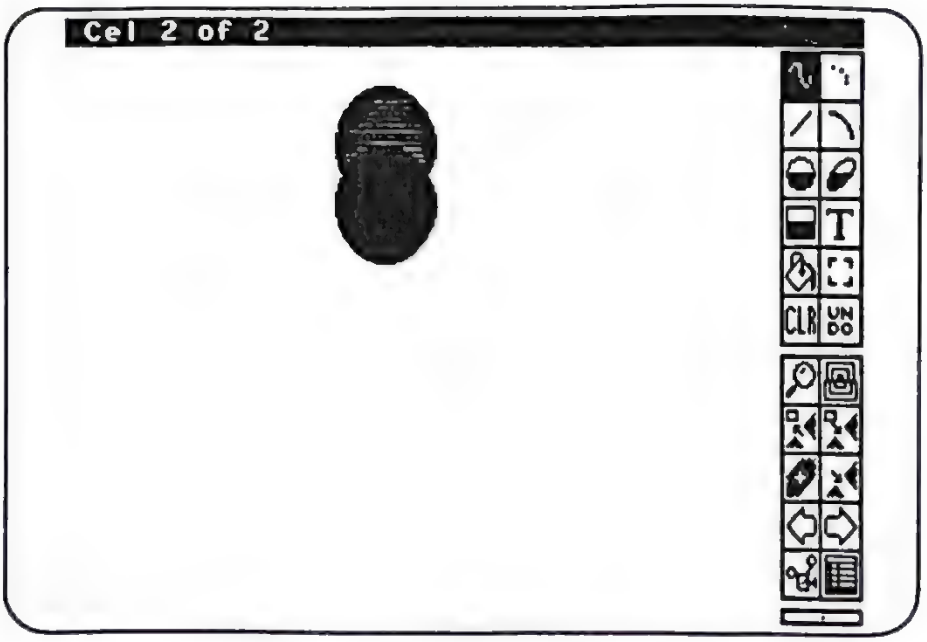


Figure 3-5. Cel 2

Now you're ready to advance to cel 3. Another way that you can advance to the next cel (other than clicking on the Forward Arrow tool), is by pressing the right arrow key on your keyboard. Try it.

You can control The Animation Studio by using the mouse to point to tools and menu items, or you can control it by using specific keys on the keyboard. The choice is yours. You'll find more information about the keyboard commands later in this manual. A complete list of keyboards commands is in Appendix C: Keyboard Commands.

Creating a Brush

Another useful feature of The Animation Studio is the Brush tool. This tool lets you draw something on the screen and then make that piece of art into a brush. Once you make a brush you can duplicate that same piece of art anywhere on the current cel or on any other cel.

You can see how the Brush tool works by using it to create additional cels for the bouncing ball animation.

Return to cel 2 by pressing the left arrow key or by clicking the Back Arrow tool. Now click on the Brush tool.

Move the pointer back over the cel. Place the pointer above the upper left edge of the ball. Then hold down the left mouse button, drag the pointer to enclose the ball in the box, and release the mouse button. When you release the mouse button, a copy of the ball appears. This copy is now "attached" to your pointer and becomes your brush.

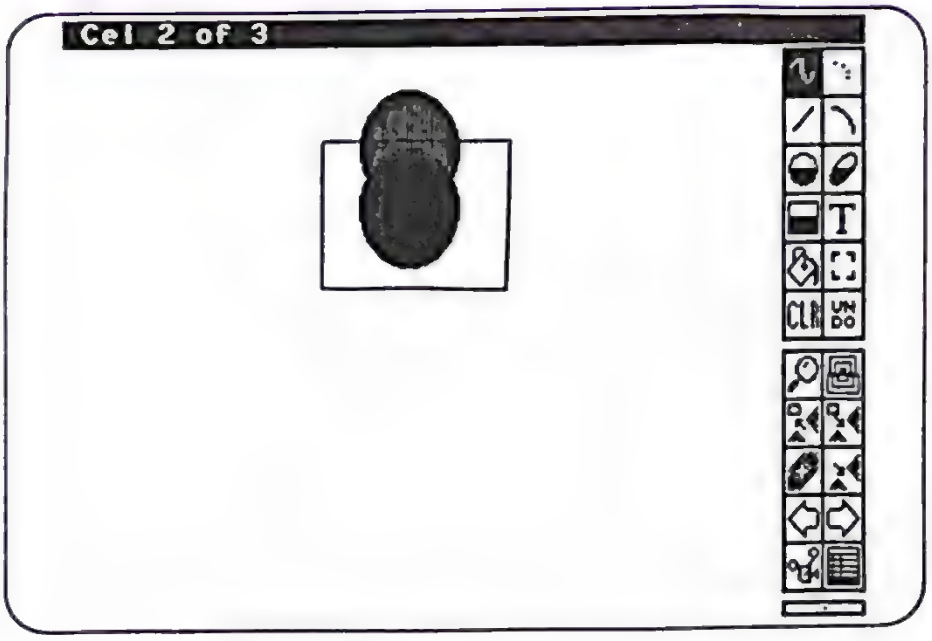


Figure 3-6. Brush Selection

The brush moves in the direction that you move your mouse.

Advance to cel 3, position the ball (using the onion skin image on cel 2 as your guide) and click the left mouse button to stamp the ball in the new position.

Continue to advance cels and stamp the brush of the ball on each cel, positioning it lower each time until you reach the bottom of the cel (about cel 7 or 8). This concludes the series of cels that make up the downward motion of the ball.

Now you'll use the brush to create the upward bounce. Stamp the ball on successive cels so that the ball goes up towards the top of the screen.

Using the Brush as an Eraser

You can use a brush as an eraser by pressing the right mouse button. Try it. Stamp a black ball using the left mouse button and then stamp over it by pressing the right mouse button.

Dropping a Brush

When you're done using a brush, you can "drop it" by clicking on the rectangular box at the very bottom of the Toolbox (there's a small dot in the center of it) or by pressing the period key.

Running the Animation

When you reach the top of the cel with the ball, you're ready to run your animation. To see the ball bounce, click on the Projector tool (bottom left tool in the Toolbox) or press the a key on your keyboard. Click the left mouse button to stop the animation on the cel where you started; click the right mouse button to stop the animation on the current cel.

Help Screen and Keyboard Commands

Now you're ready to start creating animations. But before you start, there's one more thing you should know about The Animation Studio. A Help screen is available in each section of The Animation Studio. The Help screen summarizes the function key commands. Press Alt-h on your keyboard to view the Help screen for the Pencil Test section.

Another way to learn key commands is to pull down the menus; if an option has a keyboard command, it appears next to the option. Appendix C: Keyboard Commands contains a complete listing of keys.

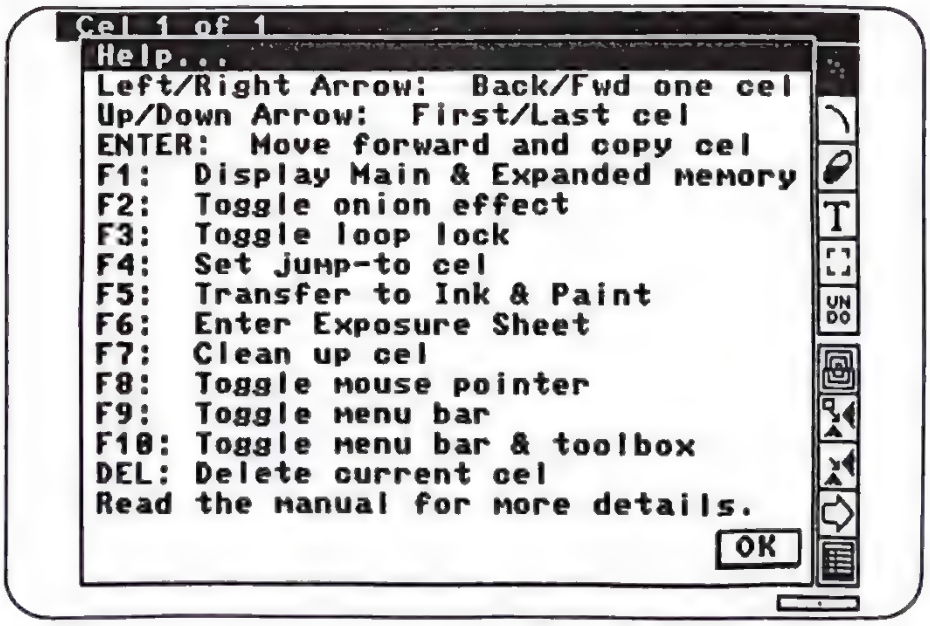


Figure 3-7. Help Screen

Exiting The Animation Studio

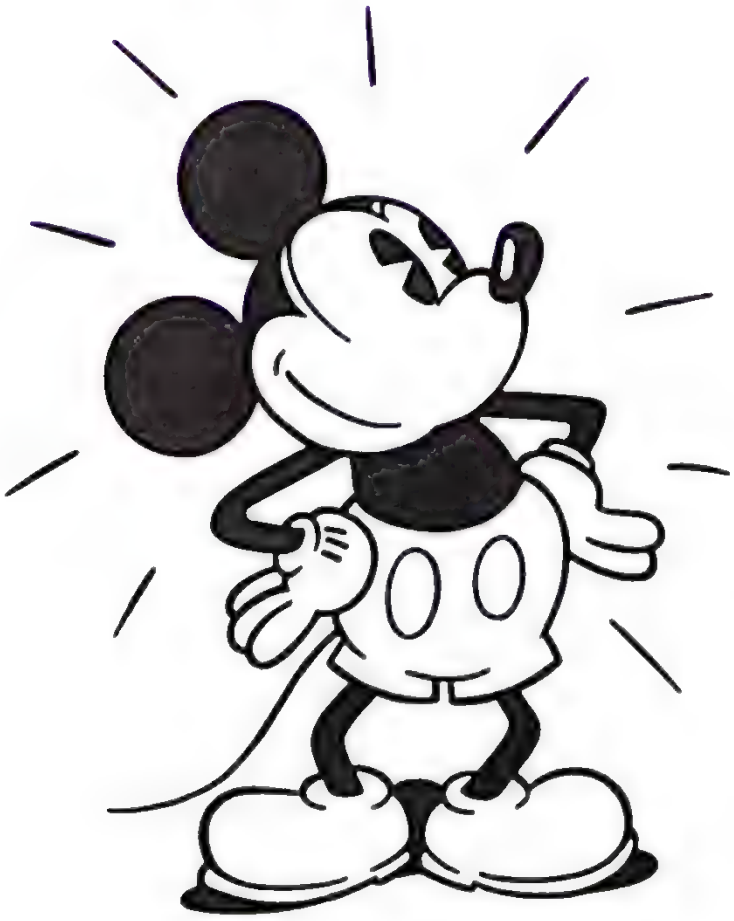
To exit The Animation Studio, select Quit from the Project menu or press the Esc key. The Animation Studio asks "Are you certain?" Click on OK to quit and return to DOS, or click on Cancel to return to the program.

End of Lesson

This lesson introduced you to the basics involved in using the Pencil Test program in The Animation Studio. Spend some time experimenting with what you've learned so far.

CHAPTER 4

Lesson 2: Working with Animation Files



Objectives

When you create animations on the computer and save them, they're stored to the disk as computer files. In addition, the example and reference animations that are part of The Animation Studio are stored on the disk as files. The Animation Studio uses IFF, Anim, and CFast file formats.

In this lesson you'll learn how to:

- Load the Demo Reel animations
- Load a sample animation
- Save an animation file

Loading the Demo Reel Animation

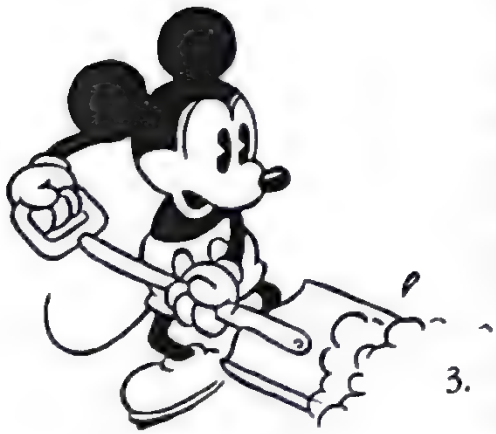
The DEMO-REEL disk contains a complete animated segment featuring Donald Duck. This reference animation is in full color. The Donald animation was digitized and The Animation Studio was used to clean up and color the animation, as well as establish the timing and import the background using the Camera functions.

To play this animation:

1. Hard disk users: Make sure you're in the DAS subdirectory.
   Floppy disk users: Insert the EXTRAS disk in your floppy disk drive.

2. Hard disk users: At the DOS prompt, type **FLICK C:\DAS\DEMO\DONALD.SEC** and press Enter. (This is the correct path if you installed the program onto a hard disk drive labelled C: using The Animation Studio install program. If you created different subdirectories, be sure to substitute DAS and DEMO with the correct names.) The animation will load and play.

   Floppy disk users: At the DOS prompt, type **FLICK DONALD.SEC.** You're told that the file can't be found and you're given the option **Please hit <ENTER> to retry, <ESC> to abort.** Remove the EXTRAS disk, insert the DEMO-REEL disk, and press Enter to run the animation.



3. The animation will repeat; click either mouse button to stop the animation and exit to DOS.

Loading an Animation File

This section shows you how to load an animation file. The sample animation file for this lesson is called Flight.

To load the animation:

1. Start the Pencil Test program (if you haven't already).

2. Move the pointer up to the Menu bar and click the right mouse button. Highlight the Project menu options. With the right mouse button still held down, move the pointer down to Open, which is the second item on the list of options. This displays the submenu.

3. With the right mouse button still held down, move the pointer across and down to CFast, and then release the button. The screen should now display the Open CFast file requester.

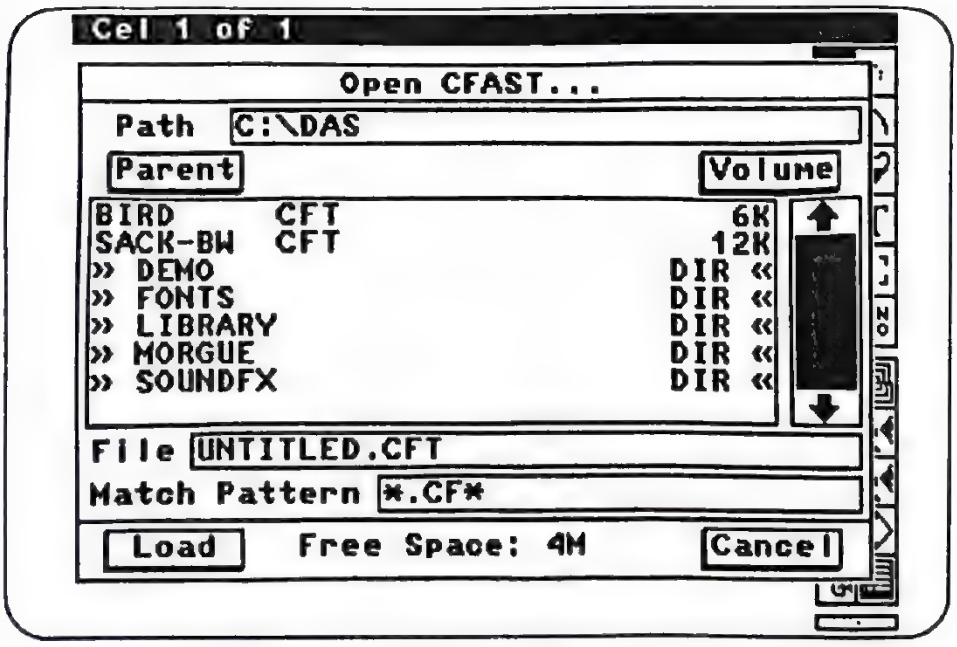


Figure 4-1. Open CFast... Requester

4. Hard disk users: The file requester displays the subdirectories within the DAS subdirectory. Click on >> LIBRARY and you'll see all the CFast files in the Library subdirectory.

Floppy disk users: Insert the EXTRAS disk in a floppy disk drive. The Path box should show the floppy disk drive that you're using (i.e., A:\ or B:\). If it doesn't show the correct drive, you can click on the first letter in the box next to Path, press the Delete key, and then enter the correct drive letter. Click on EXTRAS: and then click on >> LIBRARY.

5. Not all the file names are visible in the window; scroll through the file names by pointing to the scroll box (the vertical black rectangle on the right side of the requester), pressing and holding down the left mouse button, and then moving the mouse up and down. You can also scroll through the file names one at a time by clicking the up and down arrows.

   Click on the file named FLIGHT.CFT.

   Notice that when you click on the file name, the name appears in the edit field beside File. You can also type the file name into the edit field (to do this, you must first click in the edit field to bring up the text cursor).

6. Click Load to open the Flight file. Another way you can load the file is to double-click on the file name.

The animation takes a moment to load, and then the first cel of the sample animation appears on the screen as shown in Figure 4-2.

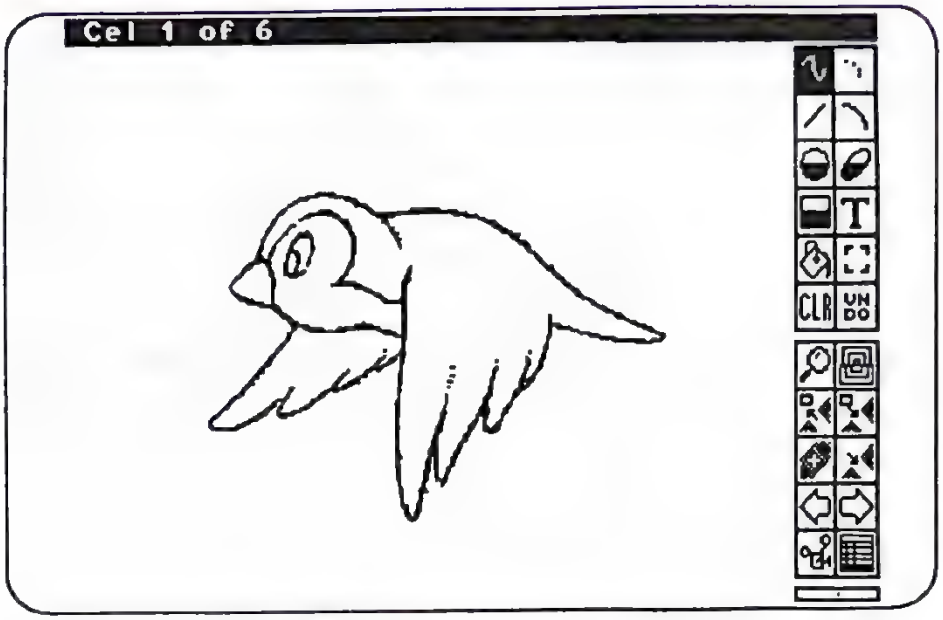


Figure 4-2. Cel 1 of Flight

Click on the Projector tool to run the animation. Click either mouse button to stop it.

Modifying Sample Animation Files

You can alter the sample animations that come with The Animation Studio and store them under a new file name. Note that the reference animations of Disney characters on the MORGUE disk are protected and cannot be saved with changes made to them.

Modifying an Animation File

Let's modify the Flight animation file. The first thing you should do is press the F3 key; this turns on Loop Lock, a feature which keeps you from adding blank cels to the end of the animation. Notice that (Loop) appears on the menu bar to show that Loop Lock is on.

Use the Fill tool to make the bird's beak solid black. To do this, select the Fill tool, position the cursor inside the beak, and click the left mouse button. Modify each cel in the animation; advance cel by cel by pressing the right arrow key or clicking on the Forward Arrow Tool.

Press the F2 key if you want to turn the onion skin effect off. When you aren't working on the positioning of an animation, you may find it easier to work with the onion skin effect off — there are fewer lines on the screen to look at.

When you press the right arrow key or click on the Forward Arrow tool while on Cel 6 of 6, you'll "loop" back to cel 1. If you didn't have the Loop Lock feature on, each press of the right arrow key or click of the Forward Arrow tool would add a blank cel to the end of the animation.

Saving a Modified Animation File

Now that you've made changes to the Flight animation, let's save them.

1. Select the Save As >> CFast option from the Project menu.

2. Hard disk users: Since the last path you were in was C:\DAS\LIBRARY, the program automatically returns to that path. You'll be saving your edited file in the Library subdirectory, so if for some reason you're in a different path, click on Volume and then click on >> LIBRARY.

   Floppy disk users: Insert a blank, formatted disk into your disk drive and click on Volume. Click on the name of your blank disk in the requester.

3. Click on the File box and press the Delete key until FLIGHT is erased. Type BIRD as the new file name (make sure the .CFT file extension remains at the end of the file name; the full file name should be BIRD.CFT).

4. Click on Save or press Enter. (If a requester asks you if you want to save the Exposure Sheet, click on Yes.)

Use the Save As option to save an animation project for the first time or to save modifications of an existing animation when you still want to keep the original animation. **Careful!** If you modify an animation and then save it under the original file name, you'll lose the original version.

Once you save an animation, you can make changes to it and then resave it with the same file name by using the Save option of the Project menu.

CHAPTER 5

Lesson 3: Creating a Complete Animation

Objectives

This lesson incorporates a sample animation included on the EXTRAS disk. You'll learn how to bring a flour sack to life through detail, sound, and color.

In this lesson you'll learn how to:

- Add detail to a Pencil Test animation
- Add sounds to the animation through the Exposure Sheet
- Save your modifications under a new file name
- Clean up outlines and color the animation in Ink & Paint
- Add a background to an animation

Finishing a Pencil Test Animation

Start in the Pencil Test program and load the Anticipation animation (ANTCPION.CFT). (Hard disk users: This file is in the C:\DAS\LIBRARY directory. Floppy disk users: This file is on the EXTRAS disk). If you're not sure how to load a file, refer to Loading an Animation File in the previous lesson. Once you load the Anticipation animation, your screen displays the first cel, as shown in Figure 5-1.

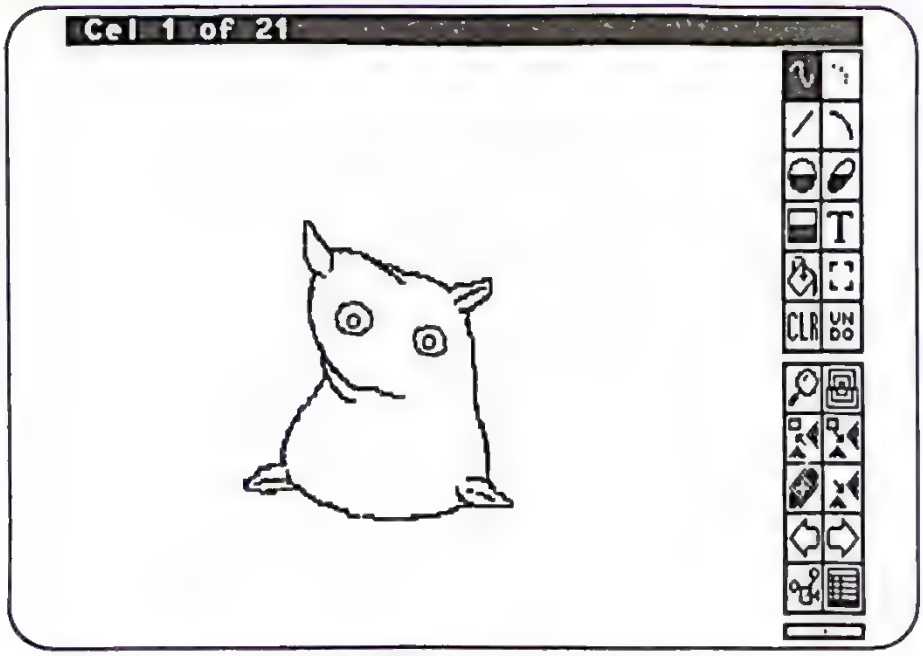


Figure 5-1. Cel 1 of Anticipation (Sack) Animation

The Anticipation animation shows an animated flour sack. Before you make any changes to the sack animation, click on the Projector tool and watch the entire animation. Notice that the movement performed by the "inanimate" sack has a lifelike quality. This is achieved by two of the techniques that are part of the magic of Disney-style animation: squash and stretch and anticipation.

Squash and Stretch: Look at the contracting and expanding movement of the sack as it jumps and lands. The squashing and stretching adds elasticity to the jumping sack, bringing a lifelike quality to the animated sequence. Note that while the sack changes shape, the total volume remains relatively constant.

Anticipation: The sack contracts downward before jumping up. This is anticipation — the specific movement preceding a major action. Anticipation leads the eye through the sequence of motions clearly, based on the idea that "before you go one way, you must go the other way first."

Stop the animation projection by clicking either mouse button and then use the right and left arrow keys on the keyboard to advance one frame at a time to study the above techniques (you may want to press the F3 key to turn Loop Lock on so you don't accidentally add blank cels to the end of the animation).

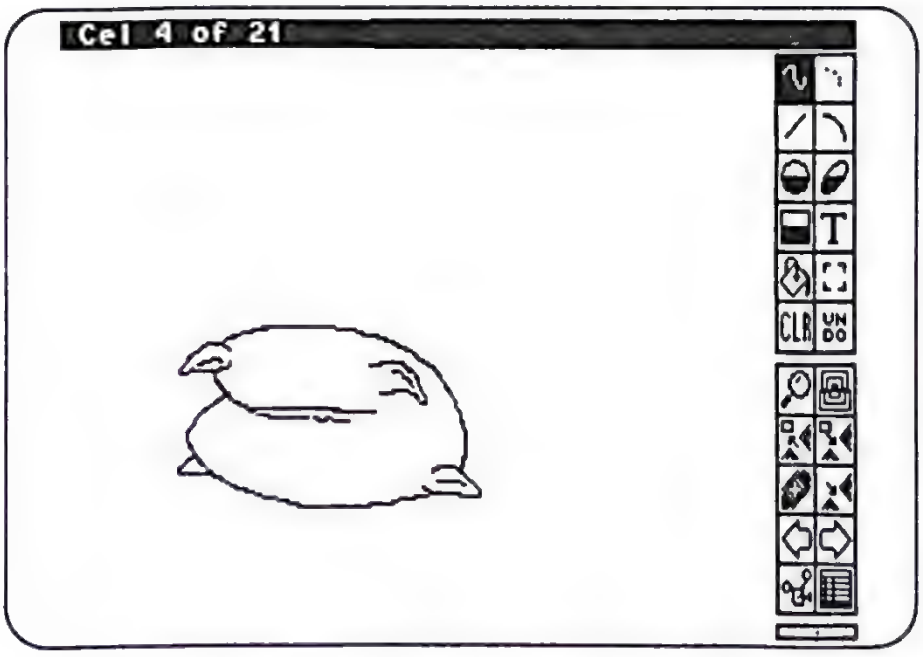


Figure 5-2. Sack Showing Anticipation

Adding Detail to the Sack Animation

In this part of the tutorial, you'll add eyes to the flour sack. The eyes will enhance the appearance of motion as the sack hops up and down.

1. Start at cel 1 and select the Freehand Line tool. Draw open eyes on the sack as shown in Figure 5-3.

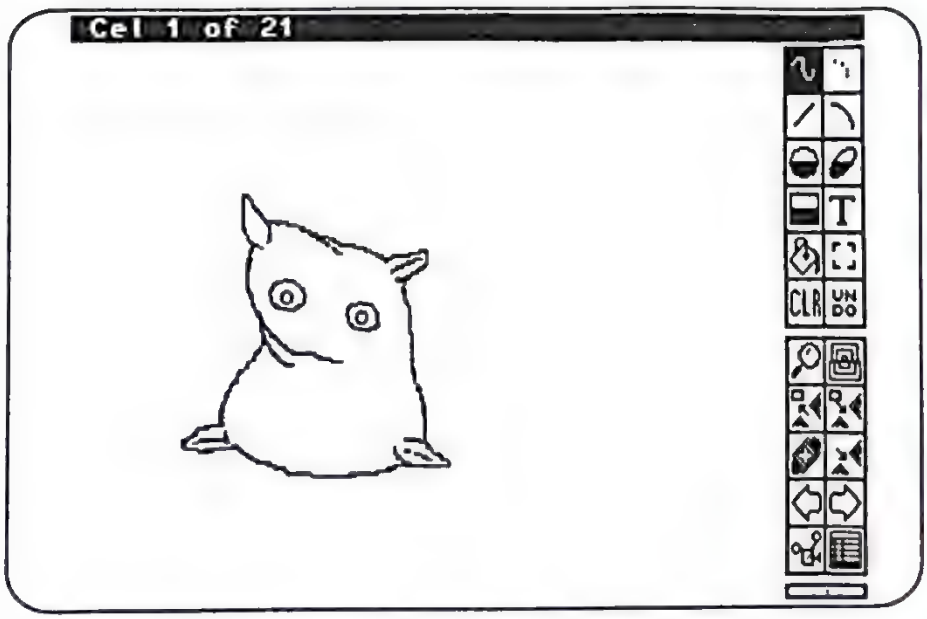


Figure 5-3. Sack Animation with Eyes

2. As the sack contracts in anticipation for the jump, draw closing eyes on cel 2 and closed eyes on cel 3 through 7.

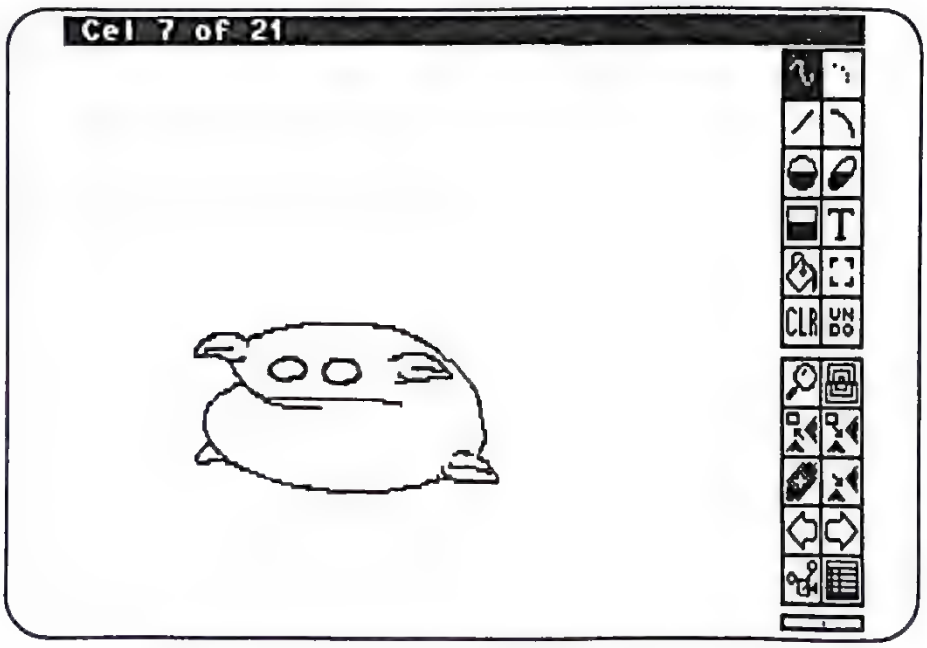


Figure 5-4. Sack with Closed Eyes

3. As the sack stretches into the jump, add open eyes to cels 8 through 13.

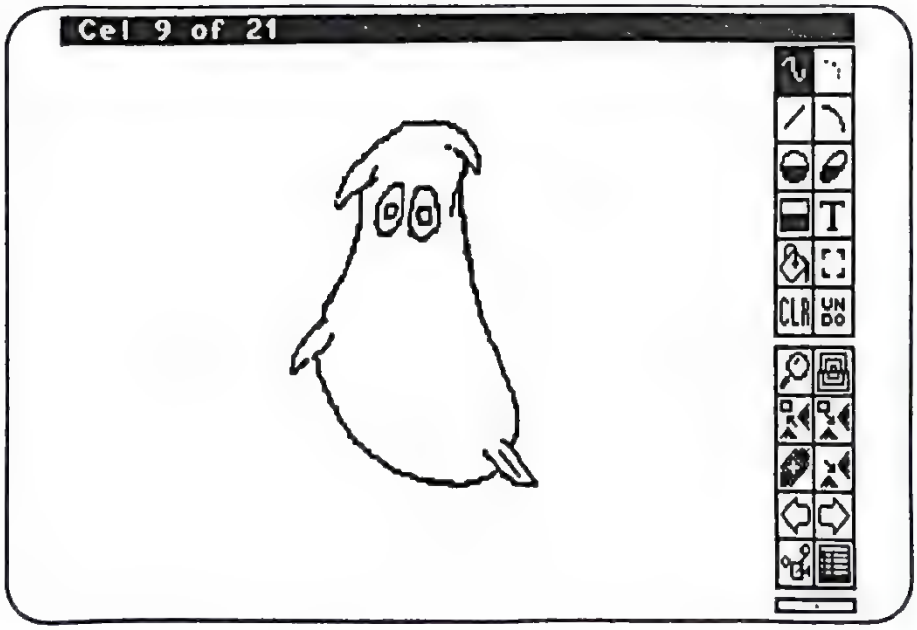


Figure 5-5. Sack with Open Eyes

4. Finally, draw closed eyes for the squash landing in cels 14 and 15, and then open eyes for the remaining cels 16 through 21.

   Press the a key on your keyboard or click on the Projector tool to run the animation; press either mouse button to stop it. Press the right/left arrow keys or click on the Forward Arrow/Back Arrow tools to flip through the animation cel by cel. Use the Freehand Line tool to correct any mistakes; press the left mouse button to draw lines and the right mouse button to erase lines.

Now that you've modified the sack animation, let's save it under a new file name. From the Project menu, select Save As >> CFast. Click on the File box and press the Delete key until ANTCPION is erased. Type **SACK** as the new file name (make sure the .CFT file extension remains at the end of the file name; the full file name should be SACK.CFT) and press Enter. Your modified animation is now saved under the name SACK.CFT. The original animation file is still saved under the name ANTCPION.CFT.

Exposure Sheet

Adding Sound to the Sack Animation

IMPORTANT: You will only be able to hear sound effects if you're using The Sound Source, Sound Blaster, or Tandy Digital Sound. If you are not using one of these, skip to the Ink & Paint lesson in this chapter.

In this part of the tutorial, you'll add sound. Each time the flour sack lands, it will make a squishing sound to enhance the effect of the sack hitting the ground.

The Exposure Sheet is a program within Pencil Test that lets you do three important things: 1) put the cels in the order you want, 2) create the proper timing for your animation, and 3) incorporate sound effects. In this lesson, you'll use the Exposure Sheet to incorporate sound effects.

1. Press F3 to turn the Loop Lock feature on. With Loop Lock on, you won't accidentally add blank cels to the animation as you work with it.

2. Now you need to determine on which cel the sack hits the ground. Single step through the animation by pressing the right arrow key or clicking on the Forward Arrow tool. Notice that the sack hits the ground on cel 14; this is the cel on which the sound effect should occur.

3. Go to the Exposure Sheet by selecting Exposure Sheet from the Project menu, by pressing F6, or by clicking on the Exposure Sheet tool (bottom right corner).

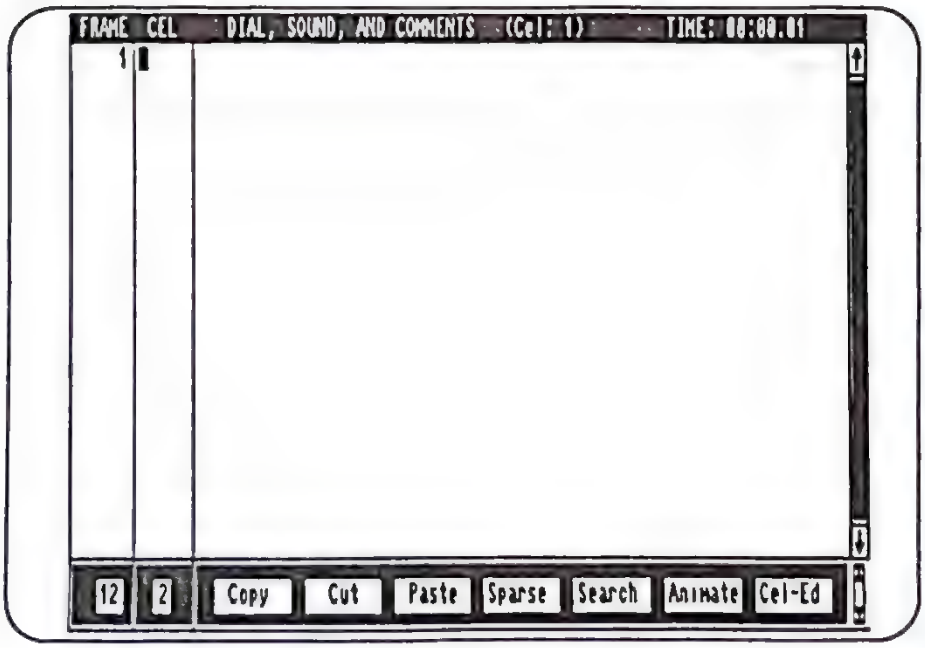


Figure 5-6. Exposure Sheet

An Exposure Sheet has already been created for the animation. Notice how each cel is assigned to a frame.

4. The first thing you should do is tell the Exposure Sheet where the sound effect is located. Click in the Dial, Sound, and Comments column next to CEL 1.
   Hard disk users: Type
   !INSTRDIR "C:\DAS\SOUNDFX".
   Floppy disk users: Type **!INSTRDIR "A:\SOUNDFX"**.

   !INSTRDIR is the command that tells the Exposure Sheet it will need to go to a specific directory.

   Hard disk users: C: represents the hard drive, DAS is a subdirectory on the C: drive, and SOUNDFX is a subdirectory within the DAS subdirectory. (This is the correct path if you installed the program onto a hard disk drive labelled C: using The Animation Studio install program. If you created different subdirectories, be sure to substitute DAS and SOUNDFX with the correct names.)

   Floppy disk users: A: represents the floppy drive, and SOUNDFX is a subdirectory on the EXTRAS disk which contains the sound effects. You'll need to insert the EXTRAS disk before animating.

5. Now you need to enter the specific sound effect. Click in the Dial, Sound, and Comments column next to CEL 14. Type **!SFX "PWAAPHT.INS"**.

   !SFX is the command that tells the Exposure Sheet to use a specific sound effect and PWAAPHT.INS is the specific sound effect.

6. Click on Animate to view the animation with sound. Notice how the sound enhances the animation.

Save the Anticipation animation with sound by returning to the Pencil Test program and then selecting Save from the Project menu (the file will be saved under your assigned name of SACK.CFT).

Ink & Paint

In this part of the lesson, you'll move to the Ink & Paint section of The Animation Studio to clean up the SACK.CFT animation and add color.

To move to Ink & Paint, pull down the Project menu and select the Ink & Paint option. Whenever you transfer between Pencil Test and Ink & Paint, you're always warned that all currently loaded cels will be lost. Be sure to save any work you want to keep before you transfer between these two programs.

If you started Pencil Test by typing **PT** or **PTTM**, quit Pencil Test and return to DOS. Then enter Ink & Paint separately by typing **IP** and pressing Enter at the DOS prompt. (Floppy disk users: Make sure the STUDIO disk is in the floppy disk drive before you type **IP**.)

Once the program loads, note that the Toolbox looks different. Some of the tools from the Pencil Test remain, but there are a number of new tools and a color palette.

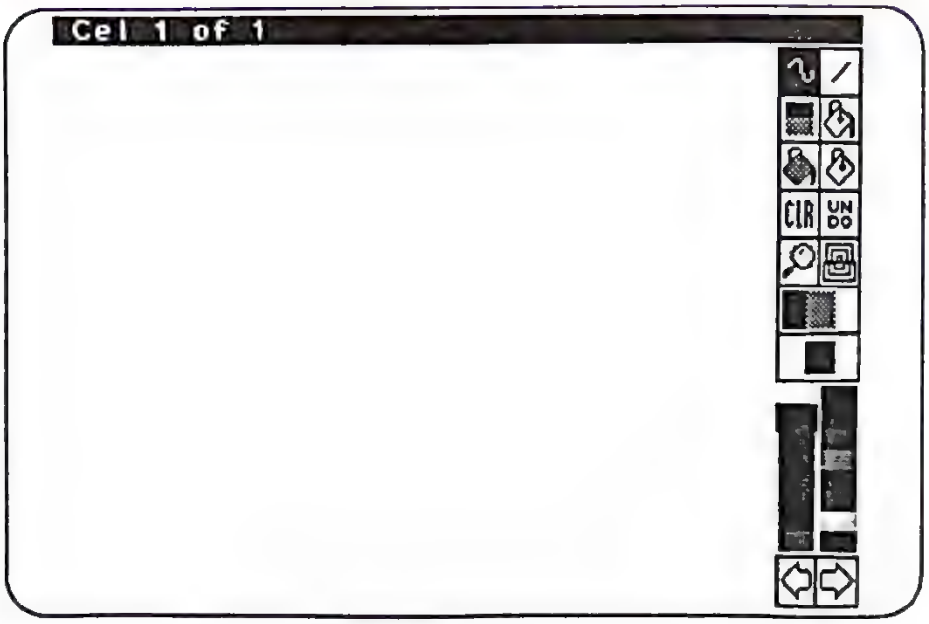


Figure 5-7. Ink & Paint Screen

To add color to the flour sack animation that you've been working on, you must open the file you saved in the Pencil Test. To do this, select Open >> CFast from the Project menu. Then use the requester to open the file that you named SACK.CFT. The Animation Studio shows the first cel of the sack animation.

Filling Outlines

Now you're ready to add color to the Pencil Test outlines of the sack animation. To do this, use the Fill tool to fill the outlines with colors you select from the palette.

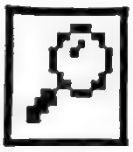
Start by selecting the Fill On Color tool (icon of a pouring paint bucket) and then clicking on the color from the palette that you want to use for the sack. To select a color from the palette, move the pointer over a color in the Toolbox and click the left mouse button.

Move the pointer over the sack and click the left mouse button. Notice that the sack fills up with the color you selected.

Fixing Leaks

Use the right arrow key to advance to cel 2. Fill the sack outline with color. Notice that the color fills the entire area. That's because the sack outline "leaked." In order to contain the fill, the outline must be completely intact.

Select Undo from the Toolbox to return the cel to its unfilled state.



Before you fill an outline, you should check for leaks, which are breaks in the outline. To do this, select the Magnify tool from the Toolbox. Notice that the pointer becomes a rectangle.

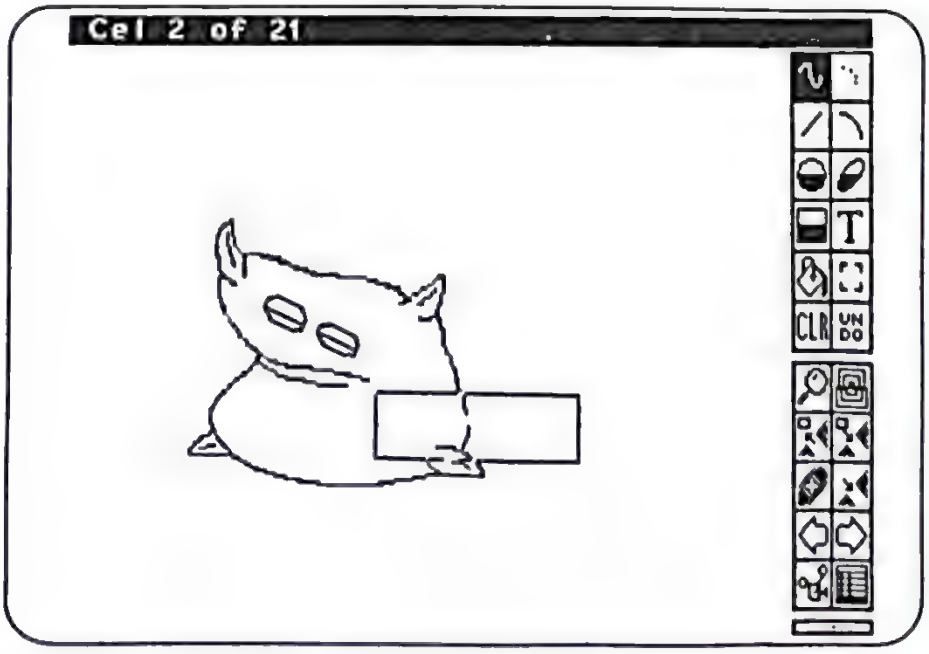


Figure 5-8. Pointer Magnification

Look carefully at the outline of the sack. On the lower right side of the sack there's a small break in the outline. Place the rectangle pointer over that area and click the left mouse button.

The screen splits into two halves, as shown in Figure 5-9. The upper half of the screen is a magnification of the area selected in the lower one. When magnified, you can see that the outline is composed of individual black rectangles called pixels (short for picture elements). Notice that there is a break in the string of pixels that make up the outline. This is the leak.

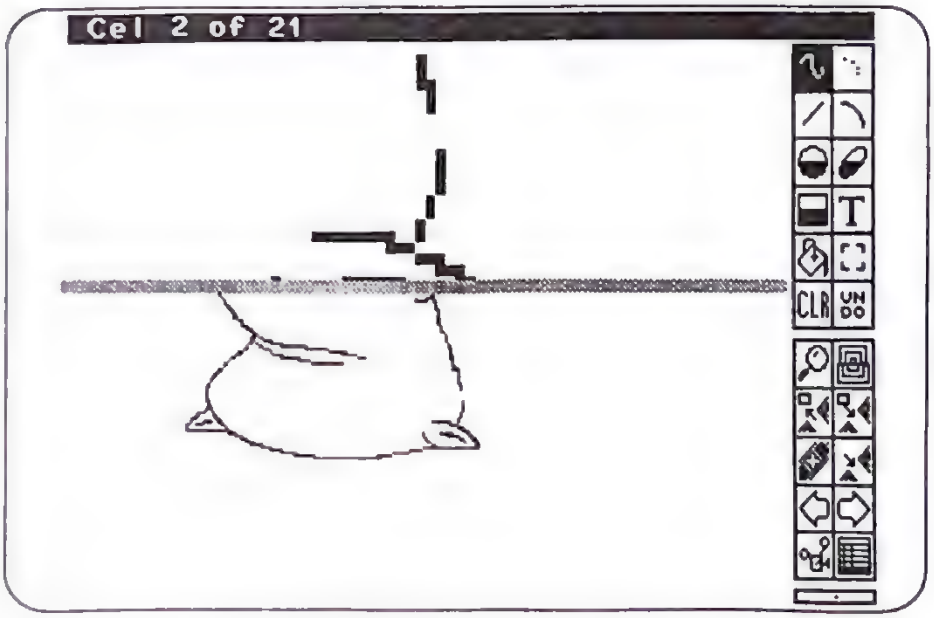


Figure 5-9. Magnified Sack

To fix the leak, select the Freehand Line tool and then click on black in the palette. Move the pointer over the leak and press the left mouse button to draw black pixels in the area of the leak. An outline will leak if there is any break in the pixels — even one missing pixel in the link will cause a leak. If you accidentally draw extra black pixels, you can erase them by clicking on them with the right mouse button.

Once you fix the leak, turn off magnification by clicking on the Magnify tool again.

Select the Fill tool and a palette color for the sack. Try filling the outline again. If it still leaks, use your Magnify tool to make sure you've spotted all the breaks in the outline.

Painting Remaining Cels

Return to cel 1 by selecting Go To from the Edit menu or by pressing the g key on your keyboard. When the Go To Cel requester appears, you see "Go to cel number: 1." Click on OK. The Go To Cel requester lets you quickly go to any cel you want.

Select another color from the palette to paint the eyes. Fill the outline for the eyes with the selected color. Then select light gray or yellow for the "white" of the eye and fill that area (We have you select a color other than white because you need to color the "white" of the eye a different color from the background to prevent the background from showing through the eyes; the background happens to be white).

When you've finished painting cel 1, advance to cel 2 and repeat the process using the same colors. Continue painting cels until all the cels of the sack animation are painted.

Adding a Background to an Animation

After you've painted all the cels in your animation, you can add a background to complete the animation. You can paint backgrounds using Ink & Paint, or create them as an IFF file using another paint package and load them into The Animation Studio when done. To complete the animation of the jumping sack in this tutorial, there's a background file already created for you to use.

Creating a Frisket

Before you can add a background to your painted animation cels, you must mask the painted objects so that they are distinguished from the background. To do this, The Animation Studio provides a function called Frisket. Frisket is a term that describes a masking technique used by artists to protect painted areas.

Do not frisket an animation until you're completely done coloring the animation. If you frisket an animation and then continue to color subsequent cels, color conflicts can arise.

To create a frisket for your animation, pull down the Camera menu and select the Frisket menu item. The screen displays the Frisket requester as shown in Figure 5-10.

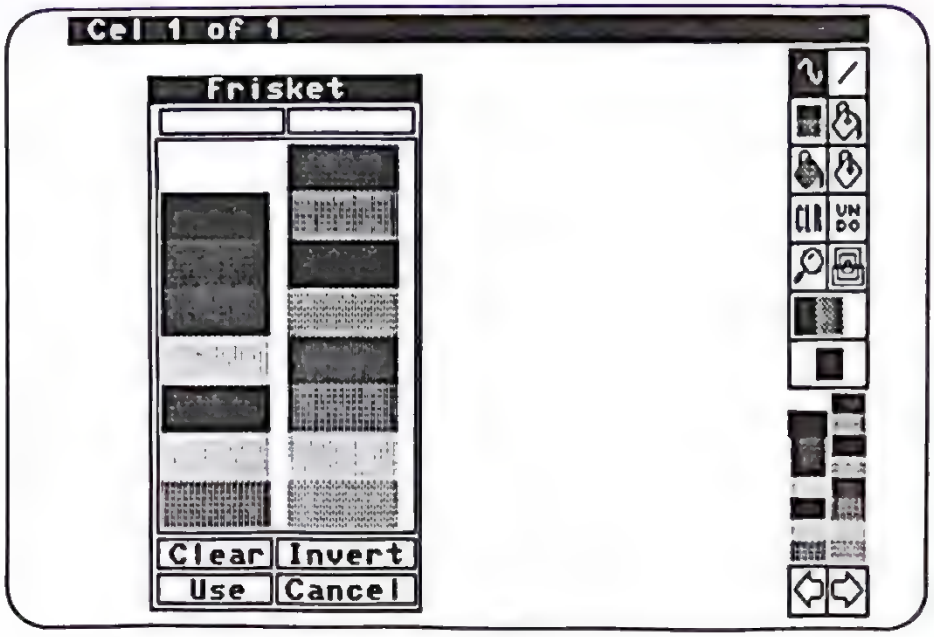


Figure 5-10. Frisket Requester

The Frisket requester lets you specify the colors that you're using in your animation so those colors always remain on top of the background. To specify the colors, point to them in the Frisket requester palette or on the cel and click the left mouse button. When you've selected a color, a small marker is displayed next to the color.

Select all the colors that you used on the sack animation. Don't forget to select black (since the outline in the animation is black). When you've selected the colors, click on Use. Note that the title bar at the top of the screen now displays (Frisket), which tells you that a frisket is in use.

Select the Auto Remap option from the Camera menu to turn color remapping on. Then select Map to >> Foreground. We won't go into detail on these commands at this point; you can find complete details on the functions of these commands in Chapter 5: Ink & Paint in the User's Guide.

Loading a Background

The final step in adding a background to your animation is to load the background file. To do this, pull down the Edit menu and select the Load Cel menu item. The screen displays the Load Cel requester as shown in Figure 5-11. Select the SACK-BG.LBM file and click on Load (Hard disk users: The file is in the Library subdirectory. Floppy disk users: the file is on the EXTRAS disk).

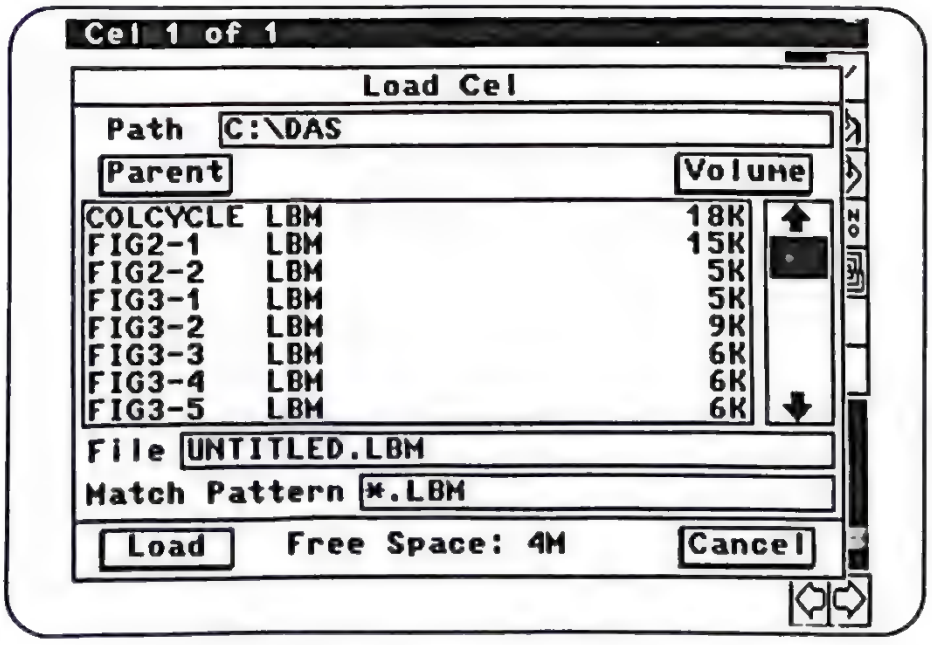


Figure 5-11. Load Cel Requester

The screen displays the Load Background requester. Click on OK to add the background to all 21 cels of the sack animation. Watch the monitor as the program adds the background to each cel.

If you're getting "Low on Memory" messages during this procedure, be sure to follow all the memory-saving tips in Chapter 2: Installation in this manual.

To save this animation, select the Save As option from the Project menu and rename the file. Make sure the extension is .CFC so the program will recognize it as an Ink & Paint file. If you save this as SACK.CFT, you will overwrite your Pencil Test file, and no longer have the black and white original.

To view your completed animation, select Animate from the Project Menu or press the a key on the keyboard.

End of Lesson

This completes the final lesson of the tutorial. At this point you've mastered the basics of The Animation Studio. Continue to experiment and try out new techniques, referring to the User's Guide when you have any questions. Have fun!

ACKNOWLEDGEMENTS

THIS PROGRAM WAS PRODUCED BY SAM PALAHNUK and Noah Dudley, members of the Walt Disney Computer Software team. Walt Disney Computer Software is part of the magic of the Walt Disney Company.

We would like to thank Walt Disney Animation for their advice and help in creating the outstanding animation featured in this product. In particular, we would like to thank Tim Hauser and Tony Anselmo.

Designed by:
Reichart Von Wolfsheild

Produced by:
Silent Software, Inc.

Program written by:
James Host
Scott T. Etherton
Edgar C. Tolentino
William A. Ware
Leo L. Schwab
William Johnson

Documentation by:
Zina Yee

Testers:
John Santos
Scott Cuthbertson
Mike Weiner
Kerry Garrison
Bernard Whang
Matthew Kazanowski

Special thanks to Jason Sweeney and Charles Dominick Lombino.

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Published by Walt Disney Computer Software, Inc.
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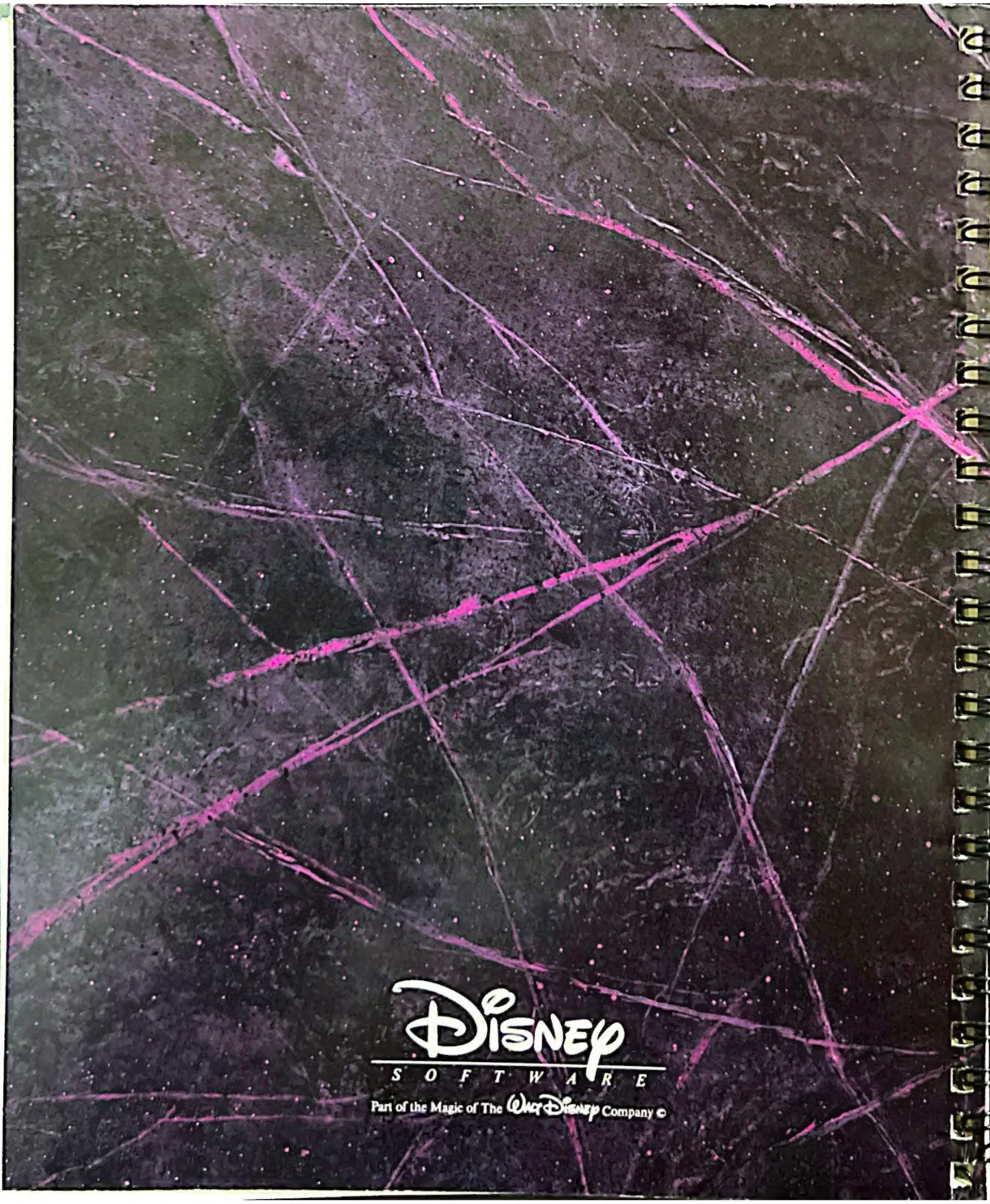
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